6 The Digital Divide

What Is The Digital Divide?

- Digital divide refers to the gap between those people who are able to access modern technology and information and those with restricted or no access
- This technology can be telephones, television, personal computer and the internet
- It is the divide between those who have the skills, knowledge, abilities to use the technologies and those who don't
- The divide can also exist because of the availability of high and low performance computers, wireless connections
- These create inequalities between individuals, households, businesses or geographic areas, it can be between countries or regions as well referred to as the global digital divide

Causes and Effects of the Digital Divide:

The infrastructure may be lacking in rural areas, this is also the case in less developed countries. Infrastructure refers to the hardware and software and equipment used o provide it services, this could include the installation of electrical cables to enable supply of electricity, the installation of fibre optic cable for high speed broadband, the installation of mobile phone masts and of fixed wireless access units and even launching of satellite for the supply of broadband

Geography:

- The IT infrastructure can vary between countries and between different areas within the same country
- Less economically developed countries lack effective infrastructure when compared to more economically developed countries(MEDCs) because MEDCs have more technology due to their greater wealth
- Divides can sometimes be seen within countries such as Italy for example where people who live in northern half are generally wealthier compared with those in southern region as a result they tend to have greater access to IT technologies

- Another geographical cause for digital divide within individual countries relates no tot lack of money but location where Russia for example has a noticeable amount of peole who live in area which don't have internet access
- Northern parts of Russia are close to mountain ranges and it is difficult to provide the necessary IT requirements such as optical fibre to these area because of problems building such resources under the mountains
- Providers are more interested in providing facilities for people living in the more densely populated areas which are easier to supply and will provide more profit
- In UK, technologies such as 5G or 4G or fibre optic internet are not available in rural parts of the country and this often because suppliers of the technology tend to focus more on the more densely populated urban areas

Fear Of IT:

- Fear of It is another cause for digital divide which is caused either through the lack of education in IT skills and knowledge or because of age since older individuals are less likely to be familiar with IT
- As IT devices more sophisticated they tend to become harder to use and learn about, therefore some people fear them
- They believe that to use computer, ATMS or telephone systems, one might have to learn and understand sets of complicated instructions
- Most people find instructions fairly easy once if they can be persuaded to try but some do not and this is usually the case of older individuals who find any type of change unsettling.

Economics:

- The wealth of the user affects their ability to access IT technologies
- New innovation usually tends to be more expensive than its predecessor
- The richer you are the more easier it is for you to have access to new IT technologies and be familiar with it
- IT companies tend to create new technologies that cater to the 'richer' people since they are better paid and make more money hence can afford it
- There is little incentive to develop solutions that would be suitable for poorer people because this wouldn't result in the same level of profit

- Developments that are made for poorer members of society tend to be at basic level and are less likely to increase their IT skills, resulting in a widening rather a narrowing of the divide
- Income in general affect whether people use IT and gain skills needed to make effective use of the Internet

Disability

- A large number of people are unable to access IT as it hasn't been designed with everyone in mind
- People with disabilities don't access internet as much as the rest of society

Why These Groups Are Affected By the Digital Divide:

People in cities and people in rural areas

- There are a number of factors that make it difficult for people living in rural areas to take advantage of the latest technological advancement
- The broadband speed for example is influenced by how far people live from the phone exchange, the level of technology used at the phone exchange and the amount of competition there is among broadband providers
- In urban areas, it's easier to dig roads in order to install copper cables and other required infrastructure like towers and fiber connected cabinet whereas in rural areas the challenging geography and untouched lands such as mountainous ranges and dense forest make it difficult not only to bring skilled labor there but to install them as well
- Moreover, a single cabinet in a street is enough to connect several houses whereas in rural areas people tend to live further apart hence more cabinets are needed and longer copper cables are required
- This deteriorates the signals as they have to travel along a greater distance and installing more cabinets make it expensive
- The existing technology also tends to be outdated; updating it is expensive in rural areas as it is challenging and not commercially viable. Rural areas also require more signal boosting devices than urban areas
- The amount of potential customers in rural areas tend to be low as they have lower incomes and les able to afford technology devices, moreover they are even lower in the area covered by the provider as they live further apart

- Urban areas usually have a high number of providers competing to persuade potential users to use their equipment but in rural areas there might be only one or two or none
- Hence companies willing to invest in expanding the coverage zone and improving infrastructure is low and these extra cost are incurred by providers are passed on to customers
- Alternatives to broadband are satellite, short distance radio links and mobile phone broadband
- Satellites are available everywhere but the signals are slower and the connection is expensive, the quality of connected can also be affect by bad weather
- Radio connection tends to vary between a lot of areas
- Mobile phone broadband is wireless broadband which requires you to be near the smartphone. The speed can be fast but it depends on the numbers of towers in the area and rural areas tend not to have many

The educate and uneducated

- Uneducated people can be considered to be those who haven't gained many educational qualifications, this could restrict their chances of getting a good paying job and pushes them into poverty
- The makes them unable to access modern technology as it requires money to use it such as having a stable internet connection, buying the device and their required accessories or buying online services
- The level of IT equipment being used and IT being taught across curriculum also varies between schools, this causes a further divide between kids and adults likewise who grow up around fast broadband being used and high IT accessibility in their educational institutions and those who do not
- However cheaper internet access is provided in a lot of areas but it is believed uneducated people don't understand the importance of their internet in their daily lives, convincing them it is beneficial has been a real challenge who wish to narrow down this divide

The old and young

- Older generations lack confidence when it comes to using IT because they haven't been as constantly exposed to IT like the younger generations

- Newer technologies are more aimed at younger people with very few modifications made to help older people use them more easily such as smartphones with glass backs that tend to be slippery for older people who are less dexterous with their hands and fingers
- Older generations tend to focus more on what matters today and would rather spend time with being involved with people than using a machine
- Elderly people also find it difficult to read small text on screen or use additional equipment like keyboards because of visual impairments or other physical handicaps
- Studies show older adults tend use well established technologies and are slower than at accepting new ones unless it becomes a necessary which increases the gap
- Older generations tend to only use recent technologies if they see it has been beneficial for people around their age and around them like online grocery

Socioeconomic Groups

- Different socio economic levels imply differing levels of disposable incomes
- Differing incomes impact on what people can buy and afford to use on regular basis such as having a smart device also requires having a stable internet connection to make use of it which is another expense
- It could also be a thing which requires training or skills to be used such as a computer
- This impacts on what people can commit to renting
- New equipment is also costly, IT companies developed new hardware and updates for profit that is only affordable for a high socioeconomic group
- They become familiar with it and develop the skills to make complete use of it before it is rolled out to the general public or lower income group
- The technology sold and available to lower income groups is usually not advanced which stops them from having higher digital skills and potentially lesser higher income jobs
- There is also no or reduced incentives for companies to develop cheaper system since the profits would be lower
- There are no and reduced incentive to provide infrastructure to poor areas as there is reduced demand

More and less industrially developed/technology aware nations

- The global digital divide is the different levels of access of countries to modern information and communications technology
- Less industrially developed nations can't afford to invest as much in technology as more well developed countries
- It doesn't necessarily mean that a nation doesn't have technology just a difference in the type of technology
- This technology can include telephone, television, personal computers and the internet
- Not all countries are able to keep up with the constant changes in technology
- There is a large inequality worldwide in terms of distribution of installed telecommunication bandwidth
- The majority of the globally installed bandwidth is spread among a tiny number of countries
- Some countries may have lower performance computers
- Some may have difficulty in obtaining technical assistance
- This results in internet connections ad newer technology to be more expensive in less developed countries resulting in a further divide on a global level
- Similarly schools in less developed countries do not involve IT in the education curriculum and fewer people get digital skills

The Effects of the Digital Divide

Health

- Many countries have health based websites which tend to contain details about medicines and common illness; they provide instant advice on how to treat them if it's a minor problem or a visit to the doctor or hospital.
- Individuals are also able to buy medicines and receive reminders about their appointments
- These services can only be accessed y individuals with necessary IT equipment such as PC, laptop or tablet with broadband or a smartphone
- These services might not be available due to cost, remoteness (lack of signal) or lack of electricity supply
- People hence receive lower quality of health care due to digital divide
- IT is used in hospitals to access patients health charts digitally which can be displayed to them on monitors giving constant monitoring, unfortunately not all hospital can afford new technology

- Doctors working in rural areas with poor or non-existent broadband connection may have limited access to patient records on their own computers preventing remote work
- Patients and doctors from affluent urban society are more likely to benefit more from such systems
- Inability to get onto a waiting list as cant access doctors website
- Not aware of imminent health risk as don't have access to a national news service

Education

- Educational institutions these days are equipped with IT equipment and make use of it in the curriculum but this varies based on the socioeconomic gap between schools with rich school using advanced technology and poor school using less advanced
- Universities also incorporate the same equipment and make use of advanced digital skills that are beneficial in work life
- Individuals who leave education at a lower stage like high school tend not to get to use the internet and computers in their daily life to their full potential
- Similarly schools and students with lower or no use of IT in the learning environment, have less resources compared to the ones who do, this could include being able to access e library, watch tutorials or make use of online resource like spelling checker
- The lack of skill in IT also makes it difficult for individuals to access digital services like online banking, health or shopping
- Unable to do wider research and so will lack wider understanding of the topic

Job Opportunities

- Modern jobs require IT skills
- Job applicants who don't have these skills tend to be unsuccessful in their attempts to finding a gainful employment or have difficulty at work
- Individuals who have studied from richer schools or ones in urban areas have sufficient skills compared to the ones who have studied from schools in poorer or rural areas which contributes to the gap
- People affected by the gap can also have hard time finding a job as many companies use recruitment jobs where applicants send in their CV online with their experiences, skills and degrees mentioned.

- This also makes it easy for organizations to hire a someone by scheduling interviews online however organizations that do not have such facilities can find it hard to find the right candidate
- It makes it hard to obtain remote jobs as well with poor or no broadband connections
- Applicants who lack digital skills may end up low paid, less stimulating jobs
- People without internet or lacking IT skills often find it difficult to gain latest information concerning job opportunities

Social Interaction

- Use of internet allows people to stay in touch with others
- It can however create a social divide between those who have developed these skills and those who are lacking these
- Such division creates the possibility of social inconsistencies in the communities where wealthy people can have computers and access the internet while poor people cant

Online Booking Systems

- People with no or poor internet access and/or limited digital skills are not able to book tickets in advance and have to pay more if booked online
- Some events, restaurants, etc allow only online booking

Online Banking

- Many major banks are closing down their branches in rural areas leaving no option to carry out transactions other than travelling further apart to the nearest branch
- Poor bandwidth connection makes it difficult in rural areas to access online banking

Online Shopping

- Main street or high street chain stores are finding it difficult to make a profit as more and more people shop online and the chains have often been slow to develop their online business

- Online shopping has become convenient as it goes on to offer incredible cheap deals that wouldn't be commercial feasible if sold physical, this is advantageous to all apart from those who are deprived of this access, particularly the poor group
- They end up paying more for their good than richer people and the digital divide remain in place
- There's also inability to compare prices of products as cant access search engines
- There is inability to check on availability of products as cant access search engines

Access To News

- Those who suffer from the digital divide are at a distinct disadvantage when it comes to gaining access to news bulletins as more newspaper are online
- Hence have limited access to latest news

Government Websites

- People who don't have access to or have the skills to use the internet are going to be at a distinct disadvantage when it comes to government facilities such as paying fines, getting identification card renewed
- They will need to travel the to the nearest big city with a government center which deals with such matters
- This obviously means they will have the expense of this travel and will have to spend a large amount of time travelling and waiting in the center

Reducing the Effects of the Digital Divide

- One way is to enable faster and cheaper access to the internet, reduces divide between those who have access to internet and those who don't
- Developing digital skills and digital literacy courses has been shown to lead towards positive effects one employability, social inclusion and general well being
- Governments can provide incentives to private industries as well as investments for rural projects
- They can introduce initiatives in state or local government education systems

- The private sector can build up broadband and other communications infrastructure but this can't be done by one group alone, it requires collaboration between all these groups
- Power line communication (PLC) allows data to be carried through power cables; it can be distributed to household at the same time as electricity. Also known as BPL
- Teaching programs within the senior community teaching older people how to use this advanced technology
- Releasing cheaper PCs or laptops to school age children from poorer communities
- Companies offering refurbished computers with reduced prices to children in families receiving state benefits
- Creation of cyber cafes in rural areas which have no or poor access to the internet
- Deliver access using satellite technology
- Improve access to the inter and provide faster broadband in rural areas by improving or building the needed infrastructure in rural areas
- Government investigates alternative means of distribution
- Schools could allow adults access to technology facilities in the evenings and during school holidays
- The government could provide schools, libraries and rural health care providers with network wiring and access to both telecommunications and internet services